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10/787,361

02/27/2004

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EXAMINER

RILEY, MARCUS T

ART UNIT

PAPER NUMBER

2625

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DELIVERY MODE

03/17/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/787,361	<b>Applicant(s)</b> MACHIDA ET AL.	
	<b>Examiner</b> MARCUS T. RILEY	<b>Art Unit</b> 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/18/08.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-13, 15, 16 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14, 17 and 19-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/27/2004; 12/18/2007; 09/30/2008</u>                        | 6) <input type="checkbox"/> Other: _____                          |



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## **DETAILED ACTION**

### **Response to Amendment**

1. This office action is responsive to applicant's remarks received on August 05, 2008.

**Claims 3, 4, 7, 10 & 12-19** remain pending and **claims 1, 2, 5, 6, 7, 9 & 11** have been cancelled.

### **Response to Arguments**

2. Applicant's arguments with respect to claims 14, 17, 19, and newly added claims 20 -37 have been considered but are moot in view of the new ground(s) of rejection.

### **Allowable Subject Matter**

3. The indicated allowability of claim 14 is withdrawn in view of the newly discovered reference(s) to Gormish et al. (US 5,337,362 hereinafter Gormish '362) and Minigawa (US 2005/0289346 A1 hereinafter, Minigawa '346). Rejections based on the newly cited reference(s) follow).

### **Claim Objections**

4. The following is a quotation of 37 CFR 1.75(a):

The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

5. Claims 14, 19, 20 & 21 are objected to under 37 CFR 1.75(a), as failing to particularly point out and distinctly claim the subject matter which application regards as his invention or discovery.

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Claims 14, 19, 20 & 21 state in part... “*wherein the displaying step divides the key value of  $M$  digits on an  $N$  digits by  $N$  digits basis ( $M$  being greater than  $N$ )*”. The specification states that  $N$  is not equal to 0. However, claims 14, 19, 20 & 21 are written whereas  $N$  could possibly equal to 0, which would render the equation undefined. Thus, Examiner suggests adding the limitation whereas  $N$  is not equal to 0.

Appropriate correction required.

**Claim Rejections - 35 USC § 103**

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 14, 19-23, 26, 27, 30, 31, 34 & 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ote (US 6,023,506 hereinafter, Ote ‘506) in combination with Matsuzaki et al. (US 6,058,476 hereinafter, Matsuzaki ‘476) as applied to claim 14 above, and further in view of Ronning (US 5,903,647 hereinafter, Ronning ‘647).

**Regarding claim 14;** Ote ‘506 discloses an image forming apparatus for forming an image based on input image data, the image forming apparatus comprising (See Figure 1 for a Block diagram of the image forming apparatus):

image storage means for storing the input image data (See figure 2 where #'s 2, 3 & 4 are the ROM, RAM and storage disk respectively).

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display means for displaying an image on a screen so as to prompt a user to input a key a plurality of times when power is on (*"Upon starting the file encryption/decryption means 1000 to conduct decryption, the file encryption/decryption means 1000 conducts authentication processing by using the password 1070 with respect to a user input password, then refers to the unencrypted file /encrypted file association table 1060, and displays a list of encrypted files 1090 stored in the encrypted file area 1080 in the form of unencrypted file names. In this state, the encryption folder 1040 is open. The user can select unencrypted files 1090 stored in the encrypted file area 1080 out of the list displayed in the form of unencrypted file names."* column 5, lines 5-15).

wherein the display means displays the key value captured by the input means, and converts an input key value into a form having no specific meaning (*"...and displays a list of encrypted files 1090 stored in the encrypted file area 1080 in the form of unencrypted file name."* column 6, lines 9-12).

wherein the display means divides the key value of M digits on an N digits by N digits basis (M being greater than N), and converts a part of the key value of the N digits into a form having no specific meaning as soon as the inputting of the key value of the part of the N digits is completed (See column 6, lines 4-30. Here, a list of encrypted files are displayed and are automatically converted by the conversion means. The unencrypted files are also converted by the conversion means 1220. It is understood and interpreted by the Examiner that the conversion means includes dividing the key value of the arbitrary digits M & N).

Ote '506 does not expressly disclose input means for capturing a key value of an encryption key input by a user during the setting of the encryption key; key value determining means for determining whether key values input by the user by a predetermined number of times match each other; non-volatile storage means for storing the key value input as an encryption key if the key value determining means determines that the key values match each other.

Matsuzaki '476 discloses input means for capturing a key value of an encryption key input by a user during the setting of the encryption key (*"In FIG. 3 step (11), the E function 67 uses data*

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*transfer key K stored in data transfer key K storage unit 70 to encrypt digital copyrighted material inputted through external I/F unit 61 and switch 65. The result Cj is outputted to second device 52 through switch 68 and external I/F unit 61.*" column 15, lines 3-7);

key value determining means for determining whether key values input by the user by a predetermined number of times match each other (*"First device 11 compares the decryption result RR1 with the random number R1 temporarily stored inside first device 11. If they match, first device 11 considers second device 12 to be in possession of the same authentication key S, and confirms the entity in communication as a legitimate device. However if they do not match, then it judges the entity in communication an unauthorized device and terminates the process."* column 2, lines 49-56).

non-volatile storage means for storing the key value input as an encryption key if the key value determining means determines that the key values match each other (*"The system then determines if the loaded image matches the database image (196) for security purposes. If the image does not match, the database data is rectified to that of the image (198) and the virtual volume is closed and unmounted (194) in order to maintain the application in a locked state."* column 9, lines 5-9). See also (*"An image file 77 which is the desired size of a "virtual volume" created by a software or digital information distribution system is allocated on a hard drive 75 or other non-volatile storage medium."* column 6, lines 14-18).

Ote '506 and Matsuzaki '476 are combinable because they are from same field of endeavor of encryption devices (*"This invention pertains to an encryption device which may be installed in communication devices which carry out encrypted communication by sharing a secret key, and especially pertains to an encryption device which can be realized with a small-scale circuit."* Matsuzaki '476 at column 1, lines 7-11).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the encryption device as taught by Ote '506 by adding input means for capturing a key value of an encryption key input by a user during the setting of the encryption key; key value determining means for determining whether key values input by the user by a predetermined number of times match each other; non-volatile storage means for storing the key

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value input as an encryption key if the key value determining means determines that the key values match each other as taught by Matsuzaki '476. The motivation for doing so would have been because it is advantageous to protect data transmitted over communication lines from being illegally copied or altered by intercepting the line of communication (*"It is often necessary to protect data transmitted over communication lines from being illegally copied or altered by intercepting the line of communication."* Scherf '552 at column 5, lines 1-2). Therefore, it would have been obvious to combine Ote '506 with Matsuzaki '476 to obtain the invention as specified in claim 14.

Ote '506 as modified does not expressly disclose encryption and decryption means for encrypting the image data using an encryption key prior to the storage of the input image data onto image storage means, and for decrypting the encrypted image data subsequent to the reading of the encrypted image data from the image storage means.

Ronning '647 discloses encryption and decryption means for encrypting the image data using an encryption key prior to the storage of the input image data onto image storage means, and for decrypting the encrypted image data subsequent to the reading of the encrypted image data from the image storage means (*"The system decrypts the sectors while reading them. The encryption/decryption of sector is explained with reference to FIGS. 16A and 16B. If the sectors of the application are compressed the system also decompresses the sectors while reading them."* column 8, lines 21-25).

Ote '506 and Ronning '647 are combinable because they are from same field of endeavor of encryption devices (*"FIG. 16A is a flow chart of a preferred sector encryption/decryption routine."* Ronning '647 at column 2, lines 67-67).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the encryption device as taught by Ote '506 by adding input means for capturing a key value of an encryption key input by a user during the setting of the encryption



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key; key value determining means for determining whether key values input by the user by a predetermined number of times match each other; non-volatile storage means for storing the key value input as an encryption key if the key value determining means determines that the key values match each other as taught by Ronning '647. The motivation for doing so would have been in order to prevent unauthorized copying of the software program or other digital information ("*...in order to prevent unauthorized copying of the software program or other digital information.*" Ronning '647 at column 2, lines 20-23). Therefore, it would have been obvious to combine Ote '506 with Ronning '647 to obtain the invention as specified in claim 14.

**Regarding claim 19, 20 & 21;** Independent claims 19, 20 & 21 contains substantially similar features as that of apparatus claim 14. Thus, claim 19, 20 & 21 are rejected on the same ground as claim 14.

**Regarding claim 22;** Ote '506 discloses wherein the image storage means corresponds to a hard disk drive (See Figure 4, #4 wherein #4 is a disk ("*Each control program implementing the present invention is stored beforehand on the disk 4...*" column 4, lines 23-25).

**Regarding claim 26, 30 & 34;** Dependent claims 26, 30 & 34 contains substantially similar features as that of apparatus claim 22. Thus, claim 26, 30 & 34 are rejected on the same ground as claim 14.

**Regarding claim 23;** Ote '506 discloses wherein the display means prompts a user to enter a key at an initial setting or when the encryption key is missing ("*Upon starting the file encryption/decryption means 1000 to conduct decryption, the file encryption/decryption means 1000 conducts authentication processing by using the password 1070 with respect to a user input password, then refers to the unencrypted file /encrypted file association table 1060, and displays a list of encrypted files 1090 stored in the encrypted file area 1080 in the form of unencrypted file names. In this state, the encryption folder 1040 is open. The user can select unencrypted files 1090 stored in the encrypted file area 1080 out of the list displayed in the form of unencrypted file names.*" column 5, lines 5-15).

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**Regarding claim 27, 31 & 35;** Dependent claims 27, 31 & 35 contains substantially similar features as that of apparatus claim 23. Thus, claim 27, 31 & 35 are rejected on the same ground as claim 14.

8. **Claim 24, 28, 32 & 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ote '506 as applied to claim 14 above, and further in view of Gormish (US 5,337,362 hereinafter, Gormish '362).

**Regarding claim 24;** Ote '506 as modified does not expressly disclose wherein one of the key values includes an error detection sign of a predetermined number of bits.

Gormish '362 discloses wherein one of the key values includes an error detection sign of a predetermined number of bits ("*...error detection and correction is performed (processing block 403) ... The error detection and correction processing (processing block 403) is the inverse of the error correction encoding which occurred during the encoding process (FIG. 1). The error detection and correction occurs by using the parity bits added during the encoding process of FIG. 1 to correct errors which may have occurred (processing block 403).*" column 5, lines 5-15).

Ote '506 and Gormish '362 are combinable because they are from same field of endeavor of encryption devices ("*FIG. 2 is one embodiment of a block of encrypted digital data produced according to the present invention.*" Gormish '362 at column 2, lines 52-54).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the encryption device as taught by Ote '506 by adding wherein one of the key values includes an error detection sign of a predetermined number of bits as taught by Gormish '362. The motivation for doing so would have been because it is advantageous for data to remain secure ("*The present invention also provides a method and apparatus for encrypting digital data such that the data remains*

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*secure upon reading the plain paper.*" Gormish '362 at column, lines 20-23). Therefore, it would have been obvious to combine Ote '506 with Gormish '362 to obtain the invention as specified in claim 14.

**Regarding claim 28, 32 & 36;** Dependent claims 28, 32 & 36 contains substantially similar features as that of apparatus claim 24. Thus, claim 28, 32 & 36 are rejected on the same ground as claim 14.

9. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ote '506 as applied to claim 14 above, and further in view of Ashizaki et al. (US 7,024,500 hereinafter, Ashizaki '500).

**Regarding claim 17;** Ote '506 as modified does not expressly disclose where the inputting and displaying of the key value is performed in one of a decimal format and a hexadecimal format.

Ashizaki '500 discloses where the inputting and displaying of the key value is performed in one of a decimal format and a hexadecimal format (*"As shown in FIGS. 9 to 12, the print data specifying information is identified by a hexadecimal value of the name of an image format."* column 15, lines 4-6).

Ote '506 and Ashizaki '500 are combinable because they are from same field of endeavor of encryption devices (*"Namely, the descrambler 12 is supplied with an encrypted moving picture data, and decrypts the moving picture data according to a method by which the supplied moving picture data has been encrypted."* Ashizaki '500 at column 8, lines 52-55).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the encryption device as taught by Ote '506 by adding where the inputting and displaying of the key value is performed in one of a decimal format and a hexadecimal format as taught by Ashizaki '500. The motivation for doing so would have been in order to make a

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printing work by the use of the print data supplied from the printing control unit via the second input/output means (*"...for making a printing work by the use of the print data supplied from the printing control unit via the second input/output means."* Ashizaki '500 at column 5, lines 1-2). Therefore, it would have been obvious to combine Ote '506 and Ashizaki '500 to obtain the invention as specified in claim 14.

10. **Claim 25, 29, 33 & 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ote '506 as applied to claim 14 above, and further in view of Gormish '362.

**Regarding claim 25;** Ote '506 as modified does not expressly disclose wherein the image forming apparatus includes a copy mode, a print mode, and a facsimile mode, and wherein an encryption key is set for each of a copy mode, the print mode, and the facsimile mode.

Minigawa '346 discloses wherein the image forming apparatus includes a copy mode, a print mode, and a facsimile mode, and wherein an encryption key is set for each of a copy mode, the print mode, and the facsimile mode (See Figure 4 where Fig. 4 shows the encryption key for a printer *"In addition to the **printers**, an example of an image forming apparatus can be a scanner, a facsimile, a digital camera, and a composite machine (multifunction peripheral device) provided with the functions of a **copy machine, a printer, a facsimile, a scanner, etc...."*** page 2, paragraph 0035).

Ote '506 and Minigawa '346 are combinable 00 because they are from same field of endeavor of encryption devices (*"Print data communication with data encryption and decryption."* Minigawa '346, See Title).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the encryption device as taught by Ote '506 by adding wherein the image forming apparatus includes a copy mode, a print mode, and a facsimile mode, and wherein an encryption key is set for each of a copy mode, the print mode, and the facsimile mode as taught

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by Minigawa '346. The motivation for doing so would have been to allow a plurality of terminal devices to share large high-speed printers and expensive color printers ("*...The network printing also has an advantage of allowing a plurality of terminal devices to share large high-speed printers and expensive color printers,*" Minigawa '346 at page 2 , paragraph 0002). Therefore, it would have been obvious to combine Ote '506 and Minigawa '346 to obtain the invention as specified in claim 14.

**Regarding claim 29, 33 & 37;** Dependent claims 29, 33 & 37 contains substantially similar features as that of apparatus claim 25. Thus, claim 29, 33 & 37 are rejected on the same ground as claim 14.

#### **Examiner Notes**

11. The Examiner cites particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully considers the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or as disclosed by the Examiner.

#### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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